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Before the
FEDERAL COMMUNICATIONS COMMISSION
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)

Implementation of Section 17 of the)
Cable Television Consumer Protection)
and Competition Act of 1992)

ET Docket No. 93-7

Compatibility Between Cable Systems)
and Consumer Electronics Equipment)

**COMMENTS OF THE CABLE-CONSUMER ELECTRONICS
COMPATIBILITY ADVISORY GROUP**

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January 25, 1994

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SUMMARY OF COMMENTS

The Commission's proposals for implementation of Section 17 of the Cable Consumer Protection and Competition Act of 1992 represent a major milestone along the road to realization of the statute's objectives. The Advisory Group supports the overall thrust and most of the details of the Commission's proposals. Certain reservations, qualifications, and clarifications, however, are discussed in the Comments which follow.

The Commission's primary responsibility under the compatibility provisions of the Cable Act is to prescribe means of "assuring compatibility between televisions and video cassette recorders and cable systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefit of both the programming available on cable systems and the functions available on their televisions and video cassette recorders." 47 U.S.C. § 624A(b). To assist the Commission in that effort, and in response to the legislative directive that the Commission formulate its regulations "in consultation with representatives of the cable industry and the consumer electronics industry," members of the Advisory Group have worked diligently for over a year on matters relating to implementation of the statute's compatibility provisions. Those efforts have produced considerable progress, much of which is reflected in the Commission's Notice.

The Commission has recognized, as the Advisory Group had suggested, that the goal of improving compatibility between cable systems and consumer electronics products cannot be achieved in a single step nor completed in an abbreviated period of time. Rather, the Notice properly calls for short-term measures that can "provide a significant degree of improved compatibility" and for longer-term measures that will produce "more substantial improvements in compatibility through the introduction of

new cable and consumer electronics equipment." Although the Notice is largely consistent with the joint recommendations submitted by the Advisory Group last July, there are differences between the joint recommendations and the Commission's proposals, and the Advisory Group is concerned by certain of the proposals in the Notice.

The Advisory Group's comments discuss short-term and longer-term measures separately, treating the Commission's proposals in the order in which they appear in the Notice. The discussion of short-term measures focuses on supplementary equipment, limitations on scrambling, remote controls, consumer education, and effective dates. The discussion of longer-term measures includes sections on "cable-ready" equipment, the Decoder Interface, technical standards, equipment authorization procedures, effective dates, equipment charges, channelization, in-the-clear delivery, and digital standards.

The Advisory Group has labored long and hard to assist the Commission in implementing Section 17 of the Cable Act. Efforts to date have been fruitful, and progress is expected to continue. The Advisory Group pledges its continuing cooperation with the Commission in the months remaining before initial regulations to implement Section 17 are required to be adopted.

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 COMPATIBILITY ADVISORY GROUP**

The Cable-Consumer Electronics Compatibility Advisory Group ("Advisory Group") is pleased to have the opportunity to respond to the Notice of Proposed Rulemaking ("Notice") in which the Commission sets forth its proposals for implementation of Section 17 of the Cable Consumer Protection and Competition Act of 1992 ("Cable Act").¹ Those proposals represent a major milestone along the road to realization of the statute's pro-consumer objectives. The Advisory Group supports the overall thrust and most of the details of the Commission's proposals. Certain reservations, qualifications, and clarifications, however, are noted in the discussion below.

I. OVERVIEW

The Commission's primary responsibility under the compatibility provisions of the Cable Act is to prescribe means of "assuring compatibility between televisions and video cassette recorders and cable systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefit of both

^{1/} See FCC 93-495, 1993 FCC Lexis 5960 (1993)("Notice"); Pub. L. No. 102-385, 106 Stat. 1460 (1992)("Cable Act").

the programming available on cable systems and the functions available on their televisions and video cassette recorders." 47 U.S.C. § 624A(b). To assist the Commission in that effort, and in response to the legislative directive that the Commission formulate its regulations "in consultation with representatives of the cable industry and the consumer electronics industry," members of the Advisory Group have worked diligently for over a year on matters relating to implementation of the statute's compatibility provisions. Those efforts have produced considerable progress, much of which is reflected in the Commission's Notice.

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The following comments discuss short-term and longer-term measures separately, treating the Commission's proposals in the order in which they appear in the Notice.

^{2/} Notice at ¶ 2; see Joint Recommendations at 6.

^{3/} See Supplemental Comments of the Cable-Consumer Electronics Compatibility Advisory Group, ET Docket No. 93-7 (July 21, 1993)("Joint Recommendations").

II. SHORT-TERM MEASURES

Supplementary Equipment. The Commission's first group of proposals involves the provision by cable operators of supplementary equipment that can remedy many of the limitations resulting from the deployment of set-top converters and converter/descramblers. Cable operators that use scrambling technology would be required to offer "set-top devices with multiple descramblers and/or timers and bypass switches to enable the operation of extended features and functions of consumer equipment that makes simultaneous use of multiple signals."⁴ Cable operators would also be required to "provide their subscribers the option of having all signals whose reception does not require use of a converter to pass those signals directly to the subscriber's TV receiver or VCR, without passing through the set-top device."⁵ Cable systems would be permitted to charge for the supplemental equipment "in accordance with the rate regulation rules for customer premises equipment used to receive the basic service tier."⁶

The above proposals are largely consistent with the joint recommendations submitted several months ago by the Advisory Group.⁷ Collectively, these measures are designed to facilitate the use of advanced picture generation and display features in television receivers, allow subscribers to watch one channel while recording another, and permit sequential recording of programs on different channels, albeit with some additional cost and wiring complications. The widespread availability of supplementary

^{4/} Notice at ¶ 12.

^{5/} Id.

^{6/} Id.

^{7/} Joint Recommendations at 6, 7-9.

hardware will therefore ameliorate the compatibility problems that were the primary reason for inclusion of Section 17 in the Cable Act.⁸

Limitations on Scrambling. The Notice next proposes "to prohibit cable systems from scrambling signals on the basic tier of cable service."⁹ The Joint Recommendations previously submitted by the Advisory Group did not address this issue. Subject to some qualification, we support the Commission's proposal.

In current practice, the basic service tier is nearly always unscrambled. Theft of basic service is less of a problem than is theft of other services. Also, there is a public benefit in permitting subscribers to access basic tier channels through direct connection to the cable service, that is, without being required to use a descrambling converter box. In some communities, where theft of service may be widespread, some cable operators may need to have the flexibility to scramble those basic channels which are not retransmitted local broadcast signals or public, education, and governmental channels¹⁰ -- or possibly even those channels which are required to be carried on the basic tier.¹¹ In such cases, the Commission needs to establish a procedure whereby the consumer and cable company interests can be properly balanced and promptly resolved.

^{8/} One minor point should be clarified. The Notice, like the statute and the joint recommendations, contemplates that cable operators offering channels whose reception requires a converter box must offer subscribers the option of having all other channels delivered directly to the TV receiver or VCR without passing through the converter box. Notice at ¶ 21. This obligation, however, is not unconditional; it applies "to the extent technically and operationally feasible." 47 U.S.C. § 624A(c)(2)(B)(ii). No technical or operational problems are expected to arise in the vast majority of cases.

^{9/} Notice at ¶ 13.

^{10/} Congress intended that cable operators be at liberty to include non-mandatory channels on the basic tier. An ironclad prohibition on scrambling of basic service channels could discourage operators from including these channels on the basic tier.

^{11/} Systems at increased risk of signal theft may include those for which demand is highly affected by seasonal considerations, which have high subscriber turnover, or which experience measurable loss of effectiveness in their existing security techniques.

Accordingly, the Advisory Group supports a general prohibition on the scrambling of all channels on the basic service tier, provided that the Commission establishes procedures for expedited adjudication of waiver requests. A more exacting burden of proof should apply to waivers involving the mandatory channels than to waivers involving the non-mandatory channels. Scrambling that was already occurring as of December 1, 1993 (the date the Notice was released), should be permitted to continue pending the adjudication of waiver requests, assuming that such requests are filed within a reasonable time after the order adopting the regulations is published.¹²

Remote Controls. The next proposals involve remote controls. The Notice proposes "to require cable operators that offer subscribers the option of renting remote controls . . . to permit the operation of their set-top devices with . . . commercially available remote control units, or otherwise take no action that would prevent the use of such remote control units," except at the subscriber's specific request.¹³ This subject was not addressed in the joint proposals submitted last summer, but the statute is quite explicit on this point.¹⁴ The Advisory Group therefore supports adoption of this proposal.

Consumer Education. The Commission also proposes to require cable operators to establish consumer education programs. These programs would require that certain information be provided when consumers first subscribe to cable service and then at least once annually thereafter.¹⁵ The information would include explanations of the potential compatibility problems resulting from use of set-top

^{12/} The lesser burden should apply in those very few instances of systems which have already found it necessary to scramble the basic tier.

^{13/} Notice at ¶ 14.

^{14/} 47 U.S.C. § 624A(2)(C)&(E).

^{15/} Notice at ¶ 15.

devices, information concerning possible differences between the tuning range of TV receivers and VCRs and the channels offered by the cable system, and explanations of potential channelization incompatibilities and remedies.¹⁶ Subscribers would specifically be advised of their rights to procure nondescrambling converters from cable operators and from third-party retail vendors.¹⁷

All of these measures are required by Section 17 of the Cable Act,¹⁸ and the Advisory Group supports inclusion of these proposals in the Commission's regulations. Although these obligations would all apply to the cable industry, the consumer electronics industry will assist in developing educational materials that are of maximum value to the consumer. The Advisory Group has a Subcommittee on Consumer Education and Marketing which plans to develop educational materials that will be made available to cable systems for meeting their obligations under the regulations just discussed.¹⁹

The Notice also discusses educational obligations with respect to the availability from third-party sources of remote controls that are compatible with the set-top units supplied by cable systems. The Commission has proposed to require cable operators that offer remote control capability with their set-top devices (which would presumably be the overwhelming majority of cable systems) to inform subscribers of their right to procure remote controls from third-party sources.²⁰ Cable operators would also be required to provide consumers with lists of models of compatible

^{16/} Id.

^{17/} Id.

^{18/} 47 U.S.C. § 624A(c)(2)(B).

^{19/} Efforts will be made to involve the Cable Telecommunications Association ("CATA") and the Society of Cable Television Engineers ("SCTE") in the development and distribution of model documents for consumer education.

^{20/} Notice at ¶ 16.

remotes and lists of local sources of such remotes.²¹ The Advisory Group supports the first of these proposals but offers the following alternative approach to the second.

The relevant statutory provision requires that consumers be provided with information regarding the "types," not "models," of compatible remotes.²² With literally hundreds of models of remote controls on the market and new models constantly being introduced, it is simply not practical to expect that accurate lists of compatible remotes can be compiled or that such lists would remain accurate for any length of time. Nor does there appear to be any reason why cable operators should be required to survey local retailers regarding the specific brands of remote controls that they offer or to apprise consumers of the names or locations of specific retailers.

Instead, the Advisory Group recommends that cable operators be required to provide information explaining the different types of remote controls. Also, to allow consumers to secure additional information about types of remote controls, as well as to obtain information about specific models of remotes, cable operators should be required to compile (with assistance from the Electronic Industries Association) and distribute lists giving the names and telephone numbers of remote control manufacturers and/or marketers.²³ In addition, cable operators should be required periodically to supply subscribers with the manufacturers and model numbers of the cable boxes supplied by the operator in their systems.

Effective Dates. With respect to the effective dates of the proposed regulations discussed above, the Notice expresses the view that these measures do not impose significant burdens and should be capable of being "implemented relatively

²¹/ Id.

²²/ 47 U.S.C. § 624A(c)(2)(D)(ii).

²³/ Needless to say, the good-faith omission of a particular manufacturer should not expose a cable operator to legal liability.

quickly."²⁴ The Advisory Group agrees, with one exception. Six months from adoption of official rules should allow sufficient time for implementation of most short-term compatibility improvements.

The sole exception involves dual-tuner converters. The availability of these products from each of the manufacturers of descrambling converters has not yet been established. The Advisory Group is aware that some cable box manufacturers do not yet have such products available and that an additional 12 months may be required before availability can reasonably be expected. As a result, we propose an 18-month transition for this requirement.

III. LONGER-TERM MEASURES

The Advisory Group and the Commission are in agreement that the measures which can be implemented in the short run are not a complete solution to compatibility problems. While significant gains can be achieved through the short-term measures described above, greater ease-of-use improvements and cost savings are achievable only after a longer period, as consumer electronics equipment and cable systems are redesigned. The advent of digital transmission provides new opportunities to "get it right" in terms of harmonizing the goals of competition and subscriber choice for consumer electronics equipment, protection of signal security for cable systems, and maximum compatibility (with minimal costs and complications) for consumers.

These solutions have several elements which have been carefully considered by the cable and consumer electronics industries. Crucial elements of the plan recommended to the Commission include (1) definition of the term "cable-ready," (2) development of a "Decoder Interface," and (3) prescription of standards for the digital environment. As was noted when these measures were presented to the Commission,

²⁴/ Notice at ¶ 17.

these measures are "interrelated and mutually-dependent."²⁵ For example, the definition of "cable-ready" must include the Decoder Interface, and specification of the Decoder Interface for the digital environment requires standardization of digital transmission specifications.

The Commission's discussion of longer-term measures begins by accepting the Advisory Group's recommendation that compatibility solutions should rely primarily on use of "an updated Decoder Interface connector and associated descrambler unit" and required conformance by both cable operators and consumer electronics equipment manufacturers with the amended channel identification plan now being developed by the Joint Engineering Committee ("JEC") of the Electronic Industries Association and the National Cable Television Association.²⁶ The Commission believes that these measures, coupled with "new tuner and shielding standards for cable-ready consumer equipment, would avoid the need for use of set-top converter units in a cost-effective manner for both cable systems and their subscribers." The Advisory Committee agrees.

The discussion which follows must be read in conjunction with the attached appendices. Certain technical subjects are discussed only generally in the text, but with significant additional detail in the appendices.

"Cable-Ready" Equipment. Any discussion of the rules governing "cable-ready" equipment must begin by identifying which equipment will be subject to those rules. The statute directs the Commission to set rules governing the characteristics of

^{25/} Joint Recommendations at 9.

^{26/} Notice at ¶ 19 (emphasis added). One sentence in this paragraph could be read to suggest that all new television receivers and VCRs would be required to incorporate the Decoder Interface. As is discussed below, the Advisory Group believes this requirement should apply only to sets which are marketed with the terms "cable-ready," "cable-compatible," or words which mean substantially the same thing.

equipment that is marketed as being "cable-ready" or "cable-compatible." Yet the Notice suggests that the rules might have a broader sweep. In two separate places, the Notice suggests that the "cable-ready" rules would apply not only to equipment marketed as such, but also to other equipment that is not designed exclusively for reception of over-the-air broadcast signals.²⁷ Such an approach would introduce an unacceptable ambiguity into the rules, and it could preclude consumers from having access to products that are capable of being connected to cable service, but which are not claimed to be "cable-ready" as that term will be defined by the Commission.²⁸

The recommended approach -- and the only one which is consistent with the statute -- is simply to apply the rules to those products which are expressly claimed to be "cable-ready" or for which the same claim is made using substantially the same language. The consumer electronics industry should remain free to manufacture and market, and consumers should be free to continue to purchase, products that have none, or only some, of the characteristics which will be required in "cable-ready" sets.²⁹ Such sets, for example, might tune cable channels, include "F" connectors, and incorporate on-screen displays that refer to cable inputs. At the same time, it must also

^{27/} See Notice at ¶ 20 (refers to "equipment that is marketed as 'cable-ready' or intended for connection to cable service"), ¶ 28 (rules would apply to "all consumer electronics equipment . . . that is marketed as 'cable-ready' or otherwise marketed as intended directly for connection to cable service")(emphasis added). The "initial regulatory flexibility analysis" is worded even more broadly. It says that improved tuners and Decoder Interface connectors would be required "in all new TV receivers and VCRs." Notice at ¶ 35 (IV)(emphasis added).

^{28/} Access to products which do not incorporate all of the features required by the "cable-ready" definition could eliminate the need for converter boxes in situations where more than 12 channels are provided on an unscrambled basis.

^{29/} See Joint Recommendations at 10 ("No regulations are needed regarding the compatibility characteristics of TVs and VCRs that are not marketed with the term 'cable-ready'").

be clear that the use of the term "cable-ready" (or equivalent) requires compliance with all of the criteria for "cable-ready" sets.³⁰

Decoder Interface. Another matter involves the two industries' agreement to address compatibility issues through development of a "Decoder Interface" that would be incorporated in cable-ready TV receivers and VCRs. Although the Notice alludes to the possibility of prescribing either the standard entitled "Standard Baseband (Audio/Video) Interface Between NTSC Television Receiving Devices and Peripheral Devices"³¹ or a new industry standard currently under development,³² the industries are firmly committed to the latter approach, which will be much more beneficial for the American consumer.³³

Last July, the cable and consumer electronics industries specifically pledged that "[e]ngineers from both industries will devise proposed specifications for a hybrid analog/digital Decoder Interface that will be submitted to the Commission in time for inclusion in the rules the Commission will issue."³⁴ Substantial progress has been

^{30/} Although products that meet the "cable-ready" requirements will not be immediately available, the Advisory Group recommends that the regulation restricting use of the term "cable-ready" (or equivalent terminology) become effective promptly. On a related point, the Advisory Group supports the Commission's proposed treatment of cable system terminal devices. See Notice at ¶ 23.

^{31/} This standard is also known as EIA-563 or "Multiport."

^{32/} Notice at ¶ 20.

^{33/} The existing Multiport does not work with every extant analog scrambling system and is not designed to handle digital signals -- which will be increasingly common by the time new Decoder Interface-equipped receivers could be produced. The hybrid analog/digital Decoder and Decoder Interface will have several advantages. Use of a smaller connector will be especially helpful in the case of VCRs, where "real estate" is at a premium; more operational flexibility is expected; hardware economies will result from synergies with other standards; and a migration path to digital will be ensured.

^{34/} Joint Recommendations at 10-11.

made in that endeavor. The attached interim report of the Decoder Interface Subcommittee on EIA IS-105 reflects the current state of these efforts.³⁵

The Advisory Group supports the Commission's determination to require cable signals to be delivered "in a form that is compatible with the Decoder Interface and component descrambler/decoder equipment used with that connector where 'in the clear' signal delivery methods are not used."³⁶ This approach is consistent with the Advisory Group's prior recommendation that, "[t]o ensure the viability of 'cable-ready' products as a means of curtailing compatibility problems, the Commission should . . . require cable operators to provide signals in a form compatible with the Decoder Interface."³⁷

The Advisory Committee does not intend to foreclose or to curtail the development of new technology, including new scrambling systems. Neither does the Advisory Committee intend to foreclose or to curtail the development and delivery of new services such as on-line data services, video games, video telephony, digital music, and others. Such services may require transmission parameters which are different from those of NTSC television. They should not be precluded by strict enforcement of the channelization plan to be released as EIA IS-542.

The Decoder Interface is being designed in a fashion which should easily be able to accommodate new scrambling methodologies and other new services. As part

^{35/} One minor point should be clarified. The Notice states that the Decoder Interface will use a "special connector." Notice at ¶ 9. In fact, the Decoder Interface uses both a standard "F" connector as well as a multipin connector.

^{36/} Notice at ¶ 29.

^{37/} Joint Recommendations at 11. There may be situations in which a cable operator may encounter difficulties in obtaining component descramblers (for example, because a converter supplier has gone out of business). In such cases, a cable operator should be allowed reasonable additional time, upon an appropriate showing, to deliver compatible signals.

of the FCC process, the hardware manufacturers and the cable and consumer electronics industries envision establishing new procedures whereby new services and scrambling methodologies can be tested for compatibility with the Decoder Interface. This process can help to prevent new compatibility problems from developing.

Technical standards. As for the specific technical characteristics of the equipment that is subject to the rules, the Notice proposes values for adjacent channel interference, tuner overload, direct pick-up, and signal leakage standards.³⁸ These proposals appear to have been drawn from a very tentative "straw man" proposal that one organization submitted to a Joint Engineering Committee working group. Those values did not have the endorsement of either industry sector, and they most certainly did not represent a consensus of the two industries. Further analysis and discussions have resulted in consensus; joint recommendations on each of these subjects are set forth in a technical appendix attached to these comments. These proposals will enable consumers to procure better receiver performance in the cable environment, albeit at some additional cost.³⁹

For the Commission's convenience, the key technical issues raised in the Notice and the applicable provisions of the technical standards are cross-referenced below:

^{38/} Notice at ¶¶ 22-25.

^{39/} At one point, the Commission expresses the view that the Decoder Interface approach will constitute "a low-cost solution for consumers." Notice at ¶ 32. The cost of the Decoder Interface will indeed be relatively low. The costs of other receiver modifications to meet the "cable-ready" specifications will inevitably be higher.

<u>Technical Parameter</u>	<u>NPRM Citation</u>	<u>JEC Reference</u> ⁴⁰
adjacent channel	¶ 22	3.2-3.5
tuner overload	¶ 22	3.6-3.11
oscillator leakage	¶ 23	3.20-3.23
radiated emissions ⁴¹	¶ 23	3.32-3.34
bypass attenuation	¶ 25	3.41-3.43
A/B switch isolation (between inputs)	¶ 24	3.35-3.40
direct pick-up and image rejection	¶ 23	3.12-3.17 & 3.27-3.31
ingress into cable	¶ 23	3.24-3.26
decoder interface	¶ 20	Decoder Interface interim report
frequency allocation	¶ 19	Frequency allocation draft EIA/ANSI-542 (when released)

It is important to understand that the industries' proposals entail certain constraints, not only on consumer electronics products, but also on cable systems. Compatibility is a two-way street, and certain voluntary specifications are under development in the JEC concerning cable systems to complement provisions applicable to cable-ready receivers.⁴²

^{40/} Except as otherwise noted, all references are to "Suggested Performance Criteria for Cable-Ready Receivers." A copy of this document is attached to these Comments.

^{41/} In the referenced JEC document, this parameter is referred to as reradiation of cable signals.

^{42/} The recommendations regarding the specifications for cable systems are in Section 3 of draft "RF Interface Specification for Television Receiving Devices and Cable Television Systems." Notification of a cable system's compliance with these voluntary specifications will be communicated to subscribers through the consumer education rules discussed above.

Equipment Authorization Procedures. The Commission inquires about the equipment authorization procedures that should apply to "cable-ready" televisions. Specifically, the Notice asks whether the current procedure of "verification" should be replaced with "certification" or "notification."⁴³ The Advisory Group sees no reason why the Commission should saddle manufacturers -- or the Commission's staff -- with any increased burdens in this area.

For one thing, TV receivers are currently subject to verification procedures, and compliance levels are quite good.⁴⁴ Also, as the new rules become effective, any noncompliance is likely to be detected quickly either by rival consumer electronics manufacturers or by cable operators. When and if violations are detected and brought to the Commission's attention, the Commission clearly has the tools to correct violations and deter future violations.

Effective dates. A further question relates to the effective date of the new regulations for "cable-ready" receivers. The Notice proposes that receivers be subject to new standards beginning with products manufactured or imported after December 31, 1996, that is, approximately 33 months after final rules are adopted in late March

^{43/} Notice at ¶ 27. Under all three procedures, manufacturers must conduct careful testing to ensure that their products comply with the Commission's rules. Unlike notification and certification, verification does not require that test data be routinely submitted to the Commission or that the Commission affirmatively approve a product before it can be marketed. 47 C.F.R. §§ 2.902, 2.904, 2.907 (1992). Manufacturers and importers of verified products, however, are required to submit test data -- or even sample units for FCC testing -- upon specific request. 47 C.F.R. § 2.956 (1992).

^{44/} The introduction of new technical requirements has not previously been thought to justify changing the verification procedure to a more burdensome form of equipment authorization. When the Commission imposed substantial new requirements for TV receivers to implement the closed captioning reception and display requirements of the Decoder Act, it did not change the application of verification rules for television receivers. There is no need for a different approach in the present context.

or early April 1994.⁴⁵ The Advisory Group believes, however, that a brief delay in this schedule may allow for a smoother transition. In this regard, two related considerations warrant attention.

First, the product introduction schedules for consumer electronics products are heavily influenced by consumer habits and retailers' needs. New products are not ordinarily introduced in the middle of the holiday busy season; rather, to allow for consumers' reactions to new product models to be used as a guide for retailers' purchases in advance of the year-end holidays, most new TV receivers and VCRs are introduced in the spring, with a smaller number introduced in the summer. Thus, any deadline which sets forth a December 31 date implicitly governs products introduced many months earlier.⁴⁶

Second, it is important that cable companies be in a position to provide decoders when Decoder Interface-equipped receivers first become available, not when the deadline arrives for all "cable-ready" sets to incorporate Decoder Interfaces.⁴⁷ Current information suggests that cable hardware suppliers may not be in a position to supply decoders in volume before the end of 1996.⁴⁸ This, taken together with the consideration just discussed above, suggests that the date for mandatory inclusion of

^{45/} Notice at ¶ 28. The Notice refers to a "21-month" period, but this appears to be a typographical error.

^{46/} The most recent FCC-required change in TV receiver design applied to receivers manufactured or imported after July 1. See 47 C.F.R. § 15.119(a)(1992). That approach avoided disruption of normal product design cycles.

^{47/} If cable companies are unable to supply decoders when consumers first begin to purchase Decoder Interface-equipped receivers, consumers are likely to be confused and dissatisfied (with their consumer electronics manufacturer or retailer or cable company, or all three).

^{48/} Further research on this subject is underway. The consumer electronics industry will try to forecast demand for Decoder Interface-equipped receivers. This information will be publicly available and will provide some guidance on the numbers of decoders that will be needed.

Decoder Interfaces in cable-ready receivers should be changed to mid-1997 (specifically, the Advisory Group recommends June 30, 1997). The Advisory Group further recommends that cable operators be required to make decoders available to their customers no later than December 31, 1996, six months before the final deadline for inclusion of Decoder Interfaces in cable-ready sets.

Equipment Charges. The Notice proposes that cable operators not be permitted to impose separate charges for the lease or installation of component decoders.⁴⁹ There is, however, no further discussion as to how the cable operator is to recoup investment in the new decoder equipment. The Advisory Group proposed that cable companies be required to provide free installation of the first component decoder in each home.⁵⁰ This -- along with the reduced monthly equipment charge discussed below -- was meant to create an inducement for subscribers to invest in new, cable-compatible TV sets and VCRs. The value to subscribers will be significant. The savings generated by the free installation and reduced monthly equipment charges will likely be greater than the cost differential for purchase of a cable-ready TV set and one that is not. The willingness of the cable industry to absorb the initial installation expense was viewed by the consumer electronics equipment manufacturers as a bona fide step to promote and encourage compatibility.

The Advisory Group further proposed that operators be allowed to charge for monthly use of component decoders, as well as for installation of additional component decoders.⁵¹ The costs of component decoders are expected to be significantly lower than those of set-top converter boxes, and those reduced costs would be reflected in

⁴⁹/ Notice at ¶ 30.

⁵⁰/ Joint Recommendations at 11.

⁵¹/ Id.

monthly subscriber charges.⁵² Such charges would, in accordance with the requirement of Section 623(b)(3), be based on actual costs. This would ensure that cable operators directly recover their costs of providing such component decoders. At the same time, it would also provide an incentive to subscribers to purchase new, cable-ready equipment -- because the cost-based price for component decoders is expected to be substantially less than the price of converter boxes and subscribers would no longer need to rent or buy separate remote control units.⁵³

The Notice proposes instead that both the installation and rental of component decoders be included as "elements of the general cable network." The Notice acknowledges that such an approach "departs" from the dictates of the Commission's rate regulation rules, insofar as the equipment would not be bundled or provided at rates that are based on actual cost. But it does not address the extent to which the unbundling and actual cost requirement are mandated by the statute.

The Notice stakes its preference for bundled rates on the expectation that denying operators any recovery of the "incremental revenue" from unbundled equipment charges will encourage operators to shift to an "in the clear" signal delivery method. The Notice contemplates that operators generally would not even be allowed to recover the actual costs of the component decoders, much less any so-called additional "incremental revenue." The Commission's rules should not foreclose cable operators from recovering costs associated with the deployment of decoders. Eliminating the recovery of the costs of component decoders cannot create an incentive

^{52/} The component descrambler or decoder will not include a tuner, infra-red receiving circuits, or external displays or buttons that add to the costs of today's set-top converter boxes. It is expected that manufacturers of set-back decoders will pass these savings on to cable operators.

^{53/} An appreciable differential to the subscriber between equipment charges for set-top converters (and remote control units) and component decoders should stimulate demand for cable-ready receivers.

for operators to provide services "in the clear," where those signal delivery approaches remain infeasible or unsuitable for universal deployment. Penalizing cable operators who supply component decoders will not cure the problems or change the limiting characteristics of particular in-the-clear approaches. With increasing progress in developing and implementing digital technology, moreover, those in-the-clear alternatives may become even less appealing than before as the cable industry and consumer equipment manufacturers strive to develop ways for delivering cable programming that approach or, possibly, exceed the functionality and appeal of today's in-the-clear approaches.

Nor is there any justification for requiring that cable operators recover their costs by increasing rates for cable service generally, instead of by charging directly for the equipment. Such an approach would simply require subscribers who have not purchased new cable-ready TV sets or VCRs to subsidize the decoder costs of those who own such new equipment -- while also requiring such subscribers to pay for their own set-top converters. Moreover, such an approach would require numerous and cumbersome cost-of-service proceedings simply to demonstrate and recover the costs of the component decoders.

If the Commission insists that the costs of component decoders be recovered in rates for cable services, then it should at least provide a mechanism for cost recovery that avoids the costs and complications of cost-of-service proceedings. It could, for example, treat costs of component descramblers as "external costs," which may be added to the program service price. Like external costs now embodied in the rate rules, the costs are governmentally imposed and are essentially beyond the control of the cable operator. And, like those external costs, these costs are not reflected in the prices surveyed in the September 1992 benchmark data. The preferred course,

however, is the separate charge proposal recommended by the Advisory Group last July.

Channelization. The Notice proposes to require cable systems built or rebuilt⁵⁴ one year after the effective date of the new rules to use the channelization plan developed by the Joint Engineering Committee and to require all cable systems to use this plan after 10 years.⁵⁵ The Advisory Group believes it would be reasonable to establish a more expedited timetable. Compliance with the channelization plan is likely to present minimal difficulties for most cable operators. The Advisory Group therefore recommends that the compliance date be established as June 30, 1997 (the same date proposed for the effectiveness of regulations dealing with Decoder Interface-equipped receivers), though the Commission should also be willing to consider, and accommodate, individualized explanations from cable operators which are not able to meet this deadline.⁵⁶

It is necessary to clarify that the channelization plan does not require cable systems to deliver -- or TV receivers to tune -- any particular number of channels. It merely specifies frequency slots up to 1002 MHz and assigns each a number.⁵⁷ It does

^{54/} A rebuild does not always involve changes that affect the channelization of the cable system. Changes in the RF distribution plant such as new coaxial cable or new amplifiers do not in and of themselves change the frequency assignments of channels. Rebuilds that involve changes in the headend are the only ones that may change frequency assignments of channels. The Commission should craft its rules on this matter in such a way as to take account of the difference.

^{55/} Notice at ¶ 31. The channelization plan ("EIA Draft Standard Cable Television Identification Plan") has been authorized for ballot by the JEC. When approved, it will be published as EIA-542. A copy is attached.

^{56/} To provide compatibility, cable systems will follow the frequency allocations designated in the channelization plan and will seek to ensure that all channel information that is supplied by the cable system properly identifies channels by number as well as by signal carried. The cable operator will provide information for printed and on-screen program guides, so that subscribers can directly reference programs with the channel number plan used on cable-ready receivers.

^{57/} It also specifies a methodology for creating additional channels at higher frequencies.

not mandate that all available channels be filled with video programming, preclude operators from dedicating one or more of the defined channels to purposes other than video programming, or preclude the transmission of multiple compressed signals in a single defined channel.

The Notice asks whether cable-ready receivers should be required to tune all cable channels from 54 MHz to 1 GHz or whether it would be preferable to establish first a lesser channel tuning capability, "such as 750 MHz, and then later require full 1 GHz capability."⁵⁸ The Advisory Group recommends a slightly different approach. Specifically, cable-ready receivers should be required to tune to 800 MHz at a minimum.⁵⁹ If, at a later time, it seems appropriate to increase the minimum requirement to 1 GHz, the filing of a petition for rulemaking would permit the merits and demerits of such an approach to be fully considered.

In-the-Clear Delivery. The Notice expresses the Commission's view that, although the measures just discussed appear to be "the most practical solution" to compatibility problems, it would prefer use of existing or future technologies that provide "in-the-clear" delivery of authorized signals.⁶⁰ As the Commission is aware, the Advisory Group has previously considered traps, interdiction, broadband descrambling and related techniques: "while all of these may have their virtues -- and individual cable operators may find them to be appropriate solutions to their particular needs -- none of them is suitable for universal deployment; each has limitations and characteristics that prevent it from reasonably being prescribed as a mandatory solution to compatibility issues."⁶¹

^{58/} Notice at ¶ 21.

^{59/} References in Appendix C to 750 and 800 MHz refer to measurement criteria as opposed to tuning capacity.

^{60/} Notice at ¶ 33.

^{61/} Joint Recommendations at 7-8.